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An agenda for sustainable and inclusive growth for emerging markets

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1. Introduction

The economic performance of 2015 was the worst since the global financial crisis and, apart from the crisis itself, it was one of weakest years in recent decades. The hope is that 2016 will be better, but I believe that there is little reason to expect significant improvement. One sees weaknesses everywhere. Most significantly, there is the (long anticipated) slowdown in China, especially in its manufacturing sector, with knock-on effects especially in those countries dependent on exporting natural resources. China has been the main engine of global economic growth in recent years, especially since the global financial crisis, so it is to be expected that its slowdown would have global repercussions, especially on natural resource- and commodity-dependent emerging markets and developing countries. Most of these failed to take advantage of the commodity price boom to adequately diversify their economies.

Unfortunately, as one looks around the world there is nothing likely to fill in the gap—implying that global growth will remain tepid. There is, in particular, continuing weakness in Europe. In no part of the world have misguided ideas had such adverse effects: continuing austerity is having

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its toll, as the gap between where the Eurozone would have been had trend growth before 2008 continued and where it is today continues to widen. (see figure below). Worse still, the Eurozone crisis is not over: it has only temporarily been put on the back burner by the Troika program of the summer of 2015 for Greece, which inevitably will ensure that Greece's depression continues.

In a relative sense, the US appears as a bright spot, but even there, growth has been anemic, productivity and employment to population numbers abysmal. While it does not suffer from the kind of austerity that Europe has imposed on itself, even there is mild austerity: with some half million fewer public sector employees than before the crisis, while normal expansion would have implied an increase of some 1.6 million public sector employees in line with the growth in the labor force.[1] Moreover, the pervasive and persistent political gridlock implies that the country will find it difficult addressing its key economic problems, some of which I will discuss below.[2]

In this paper, I seek to explain the weak global economy, and on the basis of this diagnosis to provide an agenda that would restore growth.

2. Explaining the weak and unstable global economy

The central problem in the global economy is simple: it is a lack of global aggregate demand. In the following paragraphs, I describe eight of the (somewhat related) major sources of lack of demand and instability facing the global economy. Some of these are very much of the moment—the prospect of a tightening of monetary policy in the US; some, like the growth of inequality, are longer term, and unlikely to be substantially changed soon, unless there are concerted global efforts. And for some, there is considerable uncertainty about how long they are likely to persist—the low oil prices and the persistent global imbalances (Fig. 1).

2.1. Growing inequality in most countries

In most countries around the world, there is growing inequality.[3] In some important countries, the increase in inequality has been particularly large. This is of macroeconomic importance, because those at the top consume a smaller fraction of their incomes than do those at the bottom and middle.

Before 2008, there was growing inequality too. How one reconciles that with the relatively strong growth is simple: monetary authorities took countervailing measures to stimulate the economy by lowering interest rates and relaxing regulatory standards, leading to a credit boom and a housing bubble. It was a short term palliative. Today, monetary policy can't do that—and shouldn't.

These observations are part of the new view about inequality: lower inequality is associated with better economic performance.[4] And what one does about it, the subject of section III, depends on one's theory of what has given rise to this inequality.[5]

[1] Calculations based on data from United States Bureau of Labor Statistics as of July 2015.

[2] See also Stiglitz (2016a).

[3] See, e.g. UNDP (2013) and OECD (2015). Some Latin American countries represent important exceptions. For more global perspectives, see Milanovic (2016) and Bourguignon and Scott-Railton (2015).

[4] See Stiglitz (2012) where I trace out the links. Government could have responded to the weak aggregate demand in other ways, e.g. by increasing public investment. Also, see Berg and Ostry (2011) and Berg, Ostry, and Tsangarides (2014).

[5] See Stiglitz (2012), Stiglitz, Abernathy, Hersh, Holmberg, and Konczal (2015), Piketty (2014) and the references cited there.

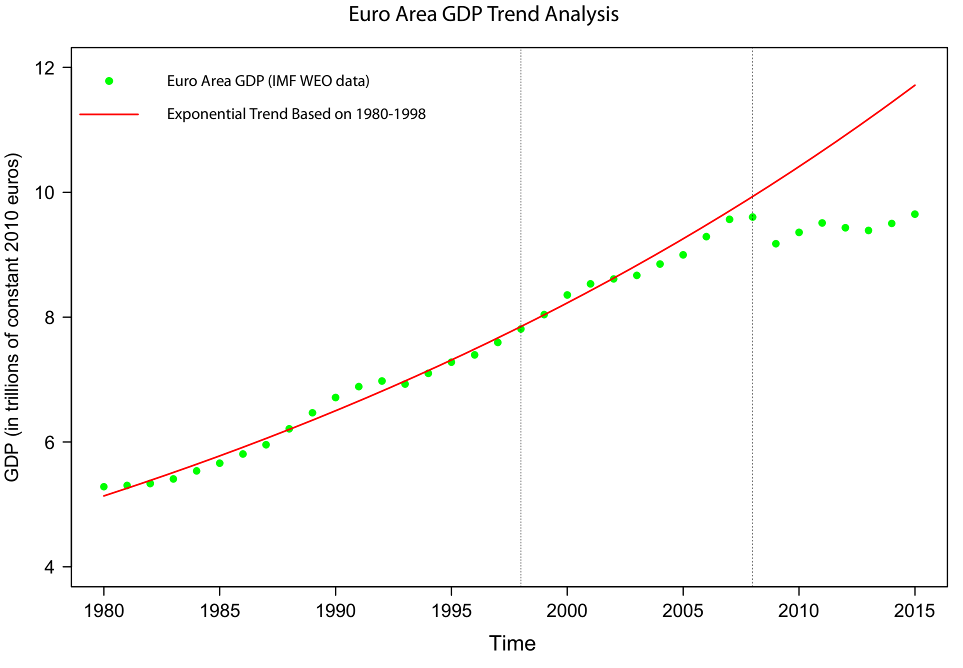

Fig. 1. Euro Area includes Austria, Belgium, Cyprus, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal and Spain. Some current Euro countries (as of 2015) are not included in this analysis due to data unavailability. Euro Area GDP is obtained from aggregating GDP (in National Currency, Constant Prices) of these countries using IMF WEO Data (accessed on April 24, 2016). Also used was the GDP deflator (index) of the involved countries from IMF WEO data available at the same source (accessed on April 24, 2016) to transform some of the GDP (in National Currency, Constant Prices) data series in order to make all GDP (in National Currency, Constant Prices) data series in our aggregation have the same base year of 2010. The GDP (in National Currency, Constant Prices) of Belgium and Luxembourg in 2015 are IMF estimates instead of the actual outputs. The results are robust, however, with alternative procedures yielding similar results.

2.2. Widespread austerity—government cutbacks or limited growth

It may have been the case that in some countries in the past, there was insufficient appreciation of the importance of fiscal discipline; countries spent beyond their means, or at least beyond their willingness to impose taxes to finance those expenditures. Today, the importance of fiscal disciplines is well accepted. But some countries have gone too far: They have failed to undertake high-return investments when there are unemployed resources and access to low-cost funds. In the past, when there was a shortage of aggregate demand, and lowering of interest rates failed to induce increased investment or consumption, fiscal authorities stepped in to fill the gap.

Conservative ideology, occasionally reinforced by now-discredited studies suggesting that when debt exceeds a certain level,[6] growth would slow down, or that there could be "expansionary contractions" (that is, that austerity could lead to growth)[7] has no doubt contributed to these widespread austerity measures.

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[6] See Rogoff and Reinhart (2010) and, for criticism of their work, Herndon, Ash, and Pollin (2014).

[7] See Alesina and Ardagna (2010) and, for a critique, Baker (2010), Jayadev and Konczal (2010), and Krugman (2013). Even the IMF concluded that austerity is contractionary. See IMF (2010).

Even in the United States, as we noted, public sector employment has not kept up with the growth of the population or labor force, and so its mild austerity helps explain much of the economic weakness there.

2.3. *China's slowing economy*[8]

It is impossible to have any discussion of the world's current economic situation without a discussion of China. It was inevitable—and anticipated—that as China moved from export-driven growth to domestic demand-driven growth, and from focusing on the quantity of growth to its quality, there would be a slowdown in economic growth—and particularly, in that part of China's growth that had given rise to the commodity and resource boom that had been of such benefit to so many other emerging markets and developing countries. Given that, it is surprising how much of a surprise the slowdown and its consequences seem to have been. China's rapid growth had fueled high commodity prices; but the commodity exporters seemed to act as if the high prices were permanent. They didn't restructure their economies; they didn't diversify as they should have.

While there is some uncertainty about how much China will slow, much of that is of limited relevance for the rest of the global economy: the growth in those parts of China's economy that demand high levels of imports of natural resources will almost surely be much lower than it has been in the past. (Much of the uncertainty is about the extent to which the service and other sectors will pick up the slack. This will be important for China's economy, but somewhat less so for the global economy.)

The financial turmoil that marked 2015 and the beginning of 2016 suggested to some that the transition might be more bumpy than had been hoped. The big lesson to be learned from this turmoil is that markets with Chinese characteristics are as volatile and hard to control as markets with American characteristics. Markets with either Chinese or American characteristics take on a life of their own, and they cannot be easily ordered around. This was the path Deng and China chose four decades ago. To the extent that markets can be controlled, it must be done with more subtlety, through setting the rules of the game, including the regulations governing markets e.g. transparency requirements. Some of what has gone on is a move in the wrong direction: there is a distinct lack of transparency in the policy framework.

There are difficult questions about how best for China to manage these transitions, with two camps, one emphasizing demand-side measures, the other supply-side measures. Of course, successful economic management will require a combination. But the question is, with what emphasis, and what particular supply- and demand-side measures.[9]

In the era of China's earlier export-led growth, there was little limit to the demand for China's products. What China made, the world bought. But China is in a different position today for several reasons. It is moving away from export-led growth to domestic demand-driven growth, in which the non-traded sector is increasingly important. And there are limits to the demand for these non-traded goods. Macroeconomic policy thus becomes increasingly important. Moreover, as China's share of global manufacturing increases, there are even limits to its ability to export more without significant decreases in prices, which erode profit margins, putting at risk the viability of enterprises and the sustainability of growth. Thus, China simply cannot ignore aggregate demand.

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[8] For a more extensive discussion of these ideas, see Stiglitz (2016c).

[9] See Stiglitz (2016c).

The stronger the demand-side measures, the stronger can and should be the supply-side reforms. Moving workers from low productivity uses to unemployment lowers growth, and markets won't create jobs on their own—particularly in the context of an overall macroeconomic slowdown. Moving workers from low productivity uses to dynamic sectors promotes growth now and in the future; but that *structural transformation* too won't happen on its own. (See the discussion below.)

There are fortunately many policies which government could use to strengthen demand—and improve longer-term economic growth and societal well-being. It could take measures to increase the share of household income, encouraging wage increases and greater distribution of corporate profits. It could undertake policies that would lead to an increase in the fraction of household income that is consumed, e.g. through stronger systems of social protection and better public education and health. Most importantly, it could increase government investments in cities, environment, and technology.

Too much of the earlier investment was debt financed. But this is ample room for increasing taxes in China. Taxes can improve economic efficiency and equality. Environmental taxes can lead to cleaner air and water even as they raise substantial revenues; congestion taxes will make cities more viable; and land (property), financial transactions, and capital gains taxes will lead to greater investments in productive investments, promoting growth.[10]

2.3.1. *Key structural reforms*

There is a long list of needed structural reforms. For instance, there is a need for a new system for financing localities, to avoid excessive reliance on real estate; and a need to create a *good, efficient* financial sector (not imitating the US model)—one focusing more on supplying finance to small and medium-sized enterprises (SMEs). Deficiencies in other aspects of its regulatory structure have impacts on both demand and supply; for example, there is a shortage of good milk, and consumers cannot be sure of milk quality, which lowers their demand. Strong food safety regulations would result in both an increase in the demand and supply of Chinese high quality food.

Much of the attention on the supply side has focused on restructuring inefficient sectors, especially those marked by high level of excess capacity. But unless accompanied by demand policies, such restructuring risks moving workers from low productivity uses to zero productivity unemployment.

Too much attention has been focused on these backward-looking supply-side measures: to take the US example, resources were wasted when shoddy homes were built in the middle of the Nevada desert. The first priority going forward is not to knock down those homes (in an attempt to consolidate housing), but to ensure that in the future resources are allocated efficiently. The basic principle taught in the first weeks of an elementary economics course is bygones are bygones (or to use the aphorism, don't cry over spilt milk). Low cost steel (provided at prices below the long term average costs of production but at or above the marginal cost of production) may be a distinctive advantage for other industries. American (and Indian) firms gained enormously from excess capacity in optic fibers in the 90s. It would have been a mistake to destroy this excess capacity; there is always an "option" value associated with potential uses; this has to be contrasted with the minimal cost of maintenance.

The large producers formed as a result of mergers that might arise out of the consolidation process may well have market power, and use that market power to extract for themselves "rents"

[10] We explain below that an increase in taxes matched by an increase in spending actually stimulates the economy.

from the rest of the economy. The lesson to be learned from Western economies is that, once created, such market power is hard to regulate or subsequently reduce. Economies with large rents are typically less efficient. Over the long run, this is an "adverse" supply measure.

There are a long list of other supposedly supply side measures which are likely to have limited benefits, and possibly adverse effects. Lowering corporate income taxes is unlikely to have any significant effect on productive investment; lowering taxes on those corporations that invest in China and create new jobs and raising taxes on those that don't would, by contrast, provide strong incentives.

Restraining wages in the hope that higher corporate profits will lead to more investment is a continuation of the policies of the past—weakening demand for non-traded goods and, therefore, lowering GDP.

On the other hand, there are also many supply-side measures that would work—including strengthening enforcement of competition laws and investing more in innovation, education, health, and infrastructure.

2.4. *Structural transformation*

All countries are constantly going through a process of structural transformation, but the types of transformation confronting many countries around the world today are particularly significant. In advanced countries, there is the need for structural transformation in response to technology and globalization: a move from manufacturing to the service sector. China, on the other hand, is going through multiple transformations: from export-led growth to domestic demand-driven growth; from high-quantity growth to high-quality growth; from manufacturing to a service based economy; from rural to urban.

Markets on their own don't manage these transformations well. Those left behind are likely to face low incomes, so periods of high structural transformation are likely to be periods of high inequality.[11]

The problems are exacerbated by the fact that some of the "growth sectors" are education and health, sectors in which the government naturally and rightfully plays a large role.

Austerity has inhibited the ability of government to play the role that it should play in these structural transformations, and especially those involving a move to health and education services.

2.5. *Global imbalances*

Global imbalances are a problem because of asymmetrical adjustment: the deficit countries are often forced to contract their spending (when lenders are no longer willing to finance their deficits),[12] but the surplus countries don't typically expand their spending in a commensurate way. Thus periods of large and increasing global imbalances are often periods of weak global aggregate demand.

Before the 2008 crisis, there was a worry about large global imbalances (especially China's surpluses), a concern that there might be a disorderly unwinding of these imbalances. It turned out that that was not the source of the global financial crisis, but it well could be the source of

[11] For a fuller discussion of these ideas, see Delli Gatti, Gallegati, Greenwald, Russo, and Stiglitz (2012a, 2012b).

[12] With incomes falling in equilibrium to the point where the revenues from exports equals expenditures on imports.

the next.[13] While China's trade surpluses have come down, those of Europe have increased.[14] The eurozone has attempted to force the crisis countries to reduce their deficits, even as Germany maintains (and sometimes increases) its surpluses.

2.6. Large changes in oil prices

The response to changes in oil price illustrates the consequences of the asymmetries: it was anticipated that lower oil prices would increase the demand in oil importing countries, and that that would stimulate the global economy. Just the opposite seems to have happened, and this is the predictable outcome of the asymmetries noted above.[15] In the US, investment in oil and gas has been one of the economy's strengths. Now, cutbacks in these investments are one of its weaknesses. Indeed, with many oil and gas companies (especially smaller ones) heavily indebted, it is likely that there will be a rash of bankruptcies and near-bankruptcies, with disruptive effects not only in the oil and gas sector, but also in financial markets, especially among banks that have lent disproportionately in these areas.[16]

2.7. Dysfunctional global financial market

Surpluses might not be a problem if they were quickly recycled, so that even if the exporting country didn't spend the money it would be spent somewhere else in the world. Surpluses are just savings. Before the financial crisis, the chairman of the Fed, Ben Bernanke, referred to there being a savings glut—and it was to this that he attributed the weakness then in the global economy. As I saw it, there was no savings glut: the world needed vast amounts of investments, in infrastructure, in education, and in technology to retrofit the global economy for global warming, and available savings were insufficient to meet these global needs. To me, it seemed that there was a shortage of savings.

The problem was that standing between long-term investment projects (infrastructure) and long-term investors (pension funds, sovereign wealth funds) are shortsighted financial markets, which seemingly couldn't or wouldn't intermediate. They couldn't or wouldn't figure out ways of managing risk so that investment needs and savings desires could be matched.

The problem is that our financial sector globally has been doing too much of what it shouldn't be doing (creating risk, manipulating markets) and too little of what it should be doing. The traditional role of the financial sector focused on intermediation and lending to businesses, especially small and medium sized enterprises that don't have easy access to capital markets. I've described how it failed to provide the necessary intermediation at the global scale. Looking more narrowly within, say, the US, we see that it has failed to provide finance to business, especially to SMEs, lending

[13] It was the financial crisis (the breaking of the US housing bubble and the subsequent implosion of the US banking system) that led to the crisis. Thus, some of those who are given credit for foreseeing the 2008 crisis actually were foreseeing quite a different crisis than the one that actually emerged. See Stiglitz (2010).

[14] The Eurozone (EU19) trade surplus for 2015 increased to €284.6 billion (about US$303.7 billion using the yearly average exchange rate for that year), compared with €218.0 billion in 2014 (US$278.1 billion) and €36.3 billion (US$47.8 billion) in 2007 before the crisis. Germany's trade surplus has moved from €194.3 billion (US$255.7 billion) in 2007 to €252.3 billion (US$269.3 billion) in 2015. On the other hand, China's trade surplus for 2014 (2015 data is not yet available) was US$284.0 billion compared to US$308.0 billion in 2007. (Source: Eurostat and World Bank data.)

[15] And highlighted in the earlier theoretical work of Greenwald and Stiglitz (1993).

[16] These links are explored in Stiglitz and Greenwald (2003) both theoretically and with reference to earlier crises.

to which remained remarkably below the pre-crisis level for years—in spite of all the attempts by the Fed to provide monetary stimulus. (In Europe, matters are even worse.)

Indeed, today, in the US, the financial sector is engaged in disintermediation: it is not transferring money from the household sector to the productive (corporate or business) sector; it is doing just the reverse. It provides money for consumer loans and mortgages (underwritten by the US government, because it refused to bear the risk of underwriting). It has facilitated the corporate sector buying back shares (massively) and engaging in other activities transferring money out of the corporate sector, leading to lower levels of investment, and correspondingly, to lower levels of aggregate demand.[17]

2.8. Tightening of US monetary policy

The final source of weakness in global economic demand is the prospect of tightening of monetary policy—I say *prospect* deliberately, because even before it occurs, the anticipation can have effects as some firms, worried about higher cost of capital in the future, cut back on investment today.

The amount of tightening so far is negligible, but it seems to have unleashed a major shift in global capital flows. In the years immediately after the crisis, with ample liquidity, money flowed into emerging markets. Now, the flow is reversed, with huge outflows.

The world as a whole did not use the period of low interest rate and ample finance well: investment did not grow. In the US, debt was used increasingly to find dividends and stock repurchases. In many emerging markets, firms and countries relied heavily on debt—the temptation of very low interest rates evidently proved irresistible.

These reverse capital flows—from emerging markets and developing countries back to developed countries—are obviously a major source of instability, and especially for firms and countries with high levels of indebtedness. Spending in countries in crisis—or even looking at the possibility of one—is likely to be dampened.

The fact that US interest rates may be moving in different directions from those in Japan and Europe poses another set of problems. These changes in interest rate differentials can give rise to large exchange rate effects, and there can be large consequences of these exchange rate changes—and again, even from the anticipation of the possibility of such changes. For reasons we have already explained, those who gain from a lower exchange rate may well increase their spending less than those who lose: there are asymmetric responses, with adverse effects on global aggregate demand.

Thus, in assessing the impact of the tightening of US interest rates, it is not the interest elasticity to which one should look: it is these other impacts that we have identified which are likely to predominate.

3. Agenda for achieving sustainable and shared growth

While the problems facing the global economy appear to be severe, there are a set of interrelated reforms that could easily restore the economy to sustainable and shared growth. In this and the next section, I describe an agenda that focuses on the *central* problems identified above, both the

[17] See Mason (2015). See Stiglitz et al. (2015) for an explanation of some of the reasons for the changed behavior of the financial sector. For a theoretical discussion of the link between retained earnings and investment, see Korinek and Stiglitz (2009).

immediate problem of the insufficiency of aggregate demand and the broader problems of climate change, structural transformation, and growing inequality.

3.1. Climate change

The most effective "reforms" address simultaneously two or more of the problems we have identified, and other problems that, while not a source of the global economic weakness, are important for the future. One of the concerns is that while attention has been so focused on recovery from the Great Recession, other problems have been allowed to fester. Among the most important problems is climate change. The pace of emissions has continued unabated, with prospects of preventing the 2 degrees Celsius increase in temperature agreed upon in Copenhagen looking increasingly remote.

A high carbon price, reflecting the social cost of carbon emissions, would not only help the world achieve the agreed upon goal of limiting climate change, but lead to high investment to retrofit economies for global warming. If that price were achieved through a carbon tax, it would provide revenues that could be used to address the other social and economic problems that we have identified.

3.2. Reform financial markets

We referred earlier to Bernanke's suggestion that there was a savings glut. The problem we identified was that the global financial markets were not "fit for purpose." They weren't performing their key social role, of intermediating between savers and investment. Most of the discussion of reforming the financial sector has focused on preventing the sector from imposing harms on the rest of society, by exploitation of market power or consumer ignorance, market manipulation, or excessive risk taking. Curbing these excesses of the financial sector would help address two of the critical shortcomings of modern market economies: the excesses of inequality and the short termism which is contributing to low productivity growth.[18]

Unfortunately, too little attention has been focused on making the financial sector actually perform the social functions which it is supposed to perform. By circumscribing the socially unproductive activities of the sector, it would be encouraged to direct its attention to socially more productive activities. But more should be done. For instance, if regulators recognized the risk associated with lending to or holding "carbon assets"—the risk that once the world finally grasps the dangers posed by global warming, there will be a carbon price, with the result that the price of carbon assets will plummet—investments in and lending for the purchase of those assets would be discouraged.

More broadly, "fixing" financial markets would help provide finance for high return investments, for instance for infrastructure or retrofitting the global economy for climate, thereby contributing to global aggregate demand.

Many central banks have been derelict in their responsibilities to make sure that the financial sector works as it should. They have been content to adjust the interest rate up or down to "regulate" the economy, but as we've seen, the effects of those changes have been small.

The absurdity that the economy's problems would be solved if we could only lower real interest rates a little more is similar to that of a "savings glut." It presumes that there are not enough good

[18] For specific proposals, see *Rewriting the Rules, op. cit.*

investment projects with real returns slightly above zero (or above minus two, the recent level of real interest rates), but that there are a plethora of good projects with returns just slightly less than that level. Again, anyone looking around the world sees a large number of projects with high real returns—but which cannot find finance.

It is not so much because monetary authorities in so many countries have hit the zero lower bound and can't lower interest rates further that there is a lack of aggregate demand. As they lower interest rates to slightly negative levels, the effect of the economy has been miniscule. Some of the effects are a result of exchange rate effects—a 21st century version of beggar-thy-neighbor competitive devaluations. The country lowering its interest rate may have done better, but mainly at the expense of its trading partners.

The problem is that the credit channel is broken: the liquidity doesn't make it to the real sector, to lending to small and medium sized enterprises that need the funds. If monetary policy is to work, the credit channel has to be fixed. And that means that banks have to once again be induced to focus on their core mission—if necessary, by restrictions on what else they can do, by taxes on these other activities, and by denying access to central bank discounting facilities unless they do so.

3.3. Promoting equality

Increasing equality would increase consumption demand, as we explained earlier. There are several ways by which this can be achieved, some focused on the short run, some on the long run. Inheritance taxes and better public education would curb the intergenerational transmission of advantages. More progressive tax and expenditure policies would mean that even with high levels of inequality in market income (partially as a result of inequalities in "asset" ownership, both financial and human capital), countries could have lower levels of after-tax and -transfer inequality. But a striking aspect of inequality today is the large difference in inequality in *market income* for countries with similar economic circumstances, and this suggests the important role that policies as much as economic forces play in explaining today's high and (in most countries) rising level of inequality. (Some emerging markets, like Brazil and Argentina, have managed to reduce inequality, in some cases significantly so.) Inequality has increased markedly in the last third of a century, partially because neoliberal doctrines, reflected in the Washington Consensus, led to rewriting the rules of the economy in ways which led to more inequality and slower growth (as a result of excessive focus on financialization and the associated short-termism). Today, part of the agenda for sustainable and inclusive growth is *rewriting the rules of the market economy* once again, to make the economy more balanced and fair, including reducing the scope for inequality-increasing rent seeking at the top, whether through exercising market (or political) power or taking advantage of deficiencies in corporate governance.[19]

In an earlier era, governments had policies to encourage or discourage wage growth. Recently, some in China have tried to restrain wage growth, in the hope that that would make Chinese products more competitive and the increased profits would lead to investments that would increase productivity. That is likely to be a counterproductive policy, as it could lead to excess capacity in still more sectors of the economy. Perhaps the most unusual feature of China's economy is the small share of household income; wage restraint would exacerbate this problem. What is needed globally is higher wages, especially at the bottom and middle, encouraged by increases

[19] See Stiglitz et al. (2015).

in minimum wages and tax provisions which incentivize firms to pay higher wages at the bottom and middle and lower wages at the top.

In most countries, there is evidence of some form of economic discrimination—gender, racial, or ethic. This discrimination, of course, contributes to inequality; and these, often large, failures in inclusion lower overall economic efficiency. When there is longstanding forms of discrimination, more than laws prohibiting discrimination may be needed; governments may have to take affirmative actions to create a more inclusive economy—and a stronger economy.

3.4. Beyond austerity

One of the factors noted earlier contributing to the weak global aggregate demand is widespread austerity. It is understandable that, given recent increases in debt levels, many countries would be concerned about debt, given the large increase since 2008—and given the campaign by those trying to downsize government using excessive debt levels as an excuse. We noted earlier (and elsewhere)[20] the deep flaws in the analytic work that has provided the intellectual foundations of this movement.

Not making high-return public investments when a country can borrow at much lower returns is bad for growth both today and in the future. (Of course, not every emerging market economy has access to funds at low costs.) As a result, countries are seeking out alternative more sensible frameworks for fiscal discipline.

3.4.1. Capital budgeting

One focuses on the distinction between investment and current spending. Incurring debt for investment is markedly different from doing so to finance current consumption. High-return investments in an era of low interest rates improve a country's balance sheet, because the increase in assets exceeds the increase in liabilities.

3.4.2. Stabilization funds

Some countries, like Chile, have established stabilization funds to manage volatility in foreign exchange earnings, especially important for natural resource exporters, since the prices of the goods they sell can vary markedly. These funds can be used to manage the real exchange rate and to smooth consumption and investment over time. Rather than borrowing in a recession, a country with a stabilization fund can draw down its stabilization account. This makes particular sense because of the imperfections of international capital markets, where borrowing rates can markedly exceed "lending" rates, or risk-adjusted returns on investment.

3.4.3. Development banks

Many countries seem to have had difficulties both creating stabilization funds and undertaking capital budgeting. A third way of getting around the strictures of short-run accounting conventions is to have a development bank, whose spending is off balance sheet. Many countries in recent years have had very positive experiences with infrastructure investment especially financed through development banks. Development banks also help fill the lacuna created by commercial banks and standard capital markets, which focus on the short term, ignore developmental benefits of such investments, and often charge excessively high interest rates.

[20] See in particular Stiglitz (2016b).

3.4.4. Balance budget multiplier

If fiscal constraints are still binding, it is still possible for government to stimulate the economy, by making use of a long known but little used principle—that of the balanced budget multiplier. Increasing expenditure and taxes in tandem can increase GDP, and if expenditures and taxes are well chosen, the balanced budget multiplier can be quite high.[21] Public investment can be complementary with private investment, and thus an increase if public investment will lead to an increase in private investment. Moreover, the recognition that government is undertaking policies that will sustain growth in the future leads individuals to increase consumption today. Taxes on the rich diminish spending today far less than an increase in expenditures on, say, education; and this is especially true for inheritance taxes, which might even induce the rich to spend more today, during their lifetime.

3.4.5. Fiscal rules

Many governments have sought fiscal rules to prevent *future governments* (and occasionally themselves) from spending too much. There was a proposal for a balanced budget constitutional amendment in the United States, which was fortunately beat back (barely). Europe has adopted fiscal rules limiting deficits to 3% of GDP. Simplistic fiscal rules like these are just that, simplistic, and likely to have adverse effects both in the short term and the long. More sophisticated frameworks, such as those above, are far preferable. If a country does go ahead with a fiscal rule, it is important to have escape clauses, e.g. for deficits in a recession, where the spending is necessary to generate a recovery, and especially so when monetary policy is likely to be ineffective in stimulating the economy, and certainly when it faces the zero lower bound.

3.5. Industrial policies

Industrial policies are public interventions designed to affect sectoral allocations and/or the choice of technology. Because markets don't exist in a vacuum, de facto, all governments have industrial policies; it is just that some countries don't know it, and because they don't know it, special interests can use the economic and legal framework to shape the economy towards their advantage. Tax and expenditure policies, monetary policies, and the rules of the game all shape the economy.[22] Industrial policies can promote employment (labor intensive industries), reduce inequality, promote stability (e.g. through encouraging economic diversification) and improve the environment. Most importantly, they are central to the economic/structural transformation which is at the heart of long-term sustainable growth for emerging markets. We noted too the failure of private markets to facilitate these transformations was one of the persistent sources of weakness in the global economy.

Industrial policies can be justified in terms of standard theories of market failures; and are especially important in creating a learning society/knowledge economy, which is the real source of wealth of the economy and is especially important in 21st century.[23] (Market failures are especially important in learning and research, because of knowledge spillovers, the public good

[21] Indeed, we noted earlier that a carbon tax can actually increase aggregate demand by itself.

[22] The US, for instance, had an industrial policy encouraging financialization, not just through ineffective enforcement of anti-trust laws and tax policy, but even through bankruptcy law, which put derivatives at the head of the line in bankruptcy. The US pro-finance industrial policy worked: partially under the influence of these policies, the financial sector grew enormously, from 2.8 % of GDP to 8.3% from 1950 to 2006. See, e.g., Greenwood and Scharfstein (2013).

[23] Greenwald and Stiglitz (2014).

nature of knowledge, and inherent imperfections of product, capital, and risk markets associated with innovation.)[24]

There are many instruments by which governments can undertake industrial policies, though trade agreements impose some restrictions.[25] One of the most important is competitive and stable real exchange rates, which can help, say, export manufacturing sectors. In many countries, development banks have played an important role in industrial policies. The intellectual property regime can play an important role, especially in promoting "learning sectors," but in ways different than often portrayed. Excessively tight IPR regimes can inhibit innovation, by impeding access to knowledge and by leading to a patent thicket, with patent trolls holding up real innovation, and litigation costs spiraling out of control.[26]

It is important to recognize that industrial policies are m*ore than just creating enabling conditions for private sector.* And the industrial policy agenda is more than the standard "good governance agenda," which too often focuses on constraining the public sector. The agenda entails strengthening the public sector and enhancing its capabilities.[27]

4. Global reforms

I have described some of the actions that individual countries can take, even in these constrained times, to increase global aggregate demand, and at the same time provide the basis of more sustainable and inclusive growth at home. There are some further measures that can be undertaken at the global level. Here, I call attention to five such actions.

4.1. A new global reserve system

The deficiencies in the current anachronistic global reserve system have long been noted. The current system leads to biases towards surpluses, as each country has to set aside money—precautionary savings—to protect itself against unknown contingencies. This is money that is earned but not spent, contributing to the weakness of global aggregate demand, especially in the context of dysfunctional global financial markets. The system leads to the overvaluation of the currencies of the reserve countries, weakening them.[28] A new global reserve system could be designed that would create new spending power and incentivize countries *not* to maintain persistent surpluses.

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[24] For a more extensive discussion of these ideas, see Stiglitz and Greenwald (2014).

[25] As we noted earlier, virtually every aspect of the legal and economic framework has some effect on economic structure.

[26] See Stiglitz and Greenwald, *op cit*; Greenwald and Stiglitz (2014) and other papers in the cited in *The Industrial Policy Revolution I: The Role of Government Beyond Ideology*, Stiglitz, J., Lin Yifu, Justin (Eds.) and *The Industrial Policy Revolution II: Africa in the 21st Century*, Stiglitz, J., Lin Yifu, Justin, and Ebrahim Patel (Eds.); Cimoli, Dosi, Nelson, and Stiglitz (2008); and Dosi and Stiglitz (2015).

[27] See Noman and Stiglitz (2012).

[28] It is ironic that in spite of this many countries (e.g. China) aspire to be reserve currency countries. For a fuller discussion of the issues discussed in this section, see Bruce Greenwald and J. E. Stiglitz, "A Modest Proposal for International Monetary Reform," in *Time for a Visible Hand: Lessons from the 2008 World Financial Crisis*, S. Griffith-Jones, J.A. Ocampo, and J.E. Stiglitz, eds., Initiative for Policy Dialogue Series, Oxford: Oxford University Press, 2010. Pp.314-344 and "Towards a New Global Reserves System," *Journal of Globalization and Development*, 1(2), Article 10. Widespread global support for such a reform was evidenced in the aftermath of the global financial crisis, with China, France, and Russia as well as a UN Commission expressing dissatisfaction with current arrangements and proposing alternatives. See Stiglitz et al. (2010).

4.2. Global coordination to reduce global imbalances

While China's surpluses are in process of being reduced, those in the Eurozone are increasing.[29] The current framework encourages competitive devaluations. Each country seeks to increase its own demand at the expense of others. In the aftermath of the Great Depression, the world recognized that such competitive devaluations were counterproductive. Hopefully, the world will again recognize this. The global reserve system described in the previous subsection could provide incentives, as we noted, to avoid surpluses.

4.3. Global economic coordinating council

A global institutional arrangement, with more representativeness and more political legitimacy than the G-20, might also help (as suggested by the Commission of Experts on Reforms of the International Monetary and Financial System, appointed by the President of the General Assembly of the United Nations, in the aftermath of the global financial crisis).[30] Such global coordination might be particularly important in avoiding the global disturbances recently seen arising out of asynchronous monetary policy.[31]

4.4. Better ways of recycling surpluses

We noted earlier the failure of private financial markets to recycle the surpluses. There is an alternative: international financial institutions, in particular the creation of new development banks and the expansion of old. The development banks have in fact played an important role in promoting development.

This is one arena in which there was real progress in 2015, with the launching of two new institutions, the New Development Bank (NDB, or the BRICS bank) and the Asia Infrastructure Investment Bank. In its founding, for instance, the NDB incorporated major advances in governance, instruments and advances over the established institutions.

Unfortunately, both reforms in the existing institutions and increases in their capital base have largely been stymied by the US.

4.5. Finance for development

There are other mechanisms by which one could simultaneously recycle surpluses, adding to global demand, and promote development, but there are three impediments.

(a) In the case of debt markets, there is no international framework for debt restructuring. Recent problems encountered by Argentina, exacerbated by peculiar rulings in US courts, have highlighted deficiencies in the framework. There is an important initiative at the UN, supported by vast majority of countries, to create a new framework. A set of principles has already been overwhelmingly endorsed. But US and some European countries are arguing against an

[29] Unfortunately, changing this will require deep reforms in eurozone.

[30] This idea, as well as several others discussed in this section, are elaborated in the report of the commission. See Stiglitz and Members of the Commission of Experts on Reforms of the International Monetary and Financial System appointed by the President of the United Nations General Assembly (2010).

[31] See Stiglitz (2015a).

international "rule of law," curiously suggesting that while bankruptcy laws may be needed domestically, contract provisions by themselves should suffice internationally. Without their cooperation, it will be hard to establish a new framework. (See Guzman & Stiglitz, 2015.)

(b) In the case of foreign direct investment, investment agreements undermine the ability of countries to regulate. While that has long been the case, recent proposed agreements are likely to make matters worse.[32]

(c) Countries have increasingly realized that they cannot rely on foreign aid, but have to mobilize domestic resources, e.g. through taxation. But in the case of taxation of multinationals, the international tax regime makes raising revenues difficult. The transfer price system enables profits to be shifted to low tax jurisdictions, and competition among jurisdictions has resulted in a race to the bottom. The OECD BEPS (base erosion and profit shifting) agreement at the G-20 left key issues unaddressed—most basically, the transfer price system is fundamentally flawed. Again, the US and some European countries successfully turned back a global effort to begin a global process of addressing these issues.[33]

4.6. *Action on climate change*

Global warming is a global problem, and will only be addressed globally. Investments to retrofit the economy for climate change would provide needed stimulus to the global economy. Environment and economic growth are *complementary*, especially if we measure growth correctly (taking into account sustainability, as suggested by the international Commission on the Measurement of Economic performance and Social Progress.[34])

Providing a price on carbon would provide incentives for investment. (Stiglitz, 2015b) The Paris meeting, while it failed to reach an agreement that would reduce emissions anywhere necessary to achieve the goal of preventing an increase of temperature of 2 degrees Celsius (largely because of US obstructionism), was important in creating momentum, so the business community realizes that in one form or another there will eventually be a price for carbon. This is especially important because key investments (infrastructure, housing, buildings, power plants) are long term.

5. Economic theory and the current economic predicament

The Great Recession taught us a great deal about economics and economic theory. It discredited theories based on perfect markets and rational expectations. It discredited the DSGE models which had been the basis of so much macroeconomic analysis in the years before the crisis.[35]

The current malaise also has its lessons. It too undermines neoclassical theory, which hypothesized not only that there wouldn't be crises, but that if there were a severe downturn, the economy would quickly recover.[36] That obviously hasn't happened. Traditional Keynesian economics predicted that monetary policy would have limited efficacy in deep downturns, and that fiscal policy can be very effective. Both of these predictions have played out. But the failure of monetary

[32] See Stiglitz (2008).

[33] See, in particular, the recent work of the Independent Commission for the Reform of International Corporate Taxation (ICRICT) available at http://www.icrict.org/bepsresponse/.

[34] See Stiglitz, Sen, and Fitoussi (2010).

[35] Chapter 8 of *Freefall reference* explored some of the implications of the crisis for economic theory. See also Stiglitz (2011, 2013).

[36] See, e.g. Stiglitz (2014a, 2014b, 2016).

policy has been—wrongly, I believe,—attributed to the zero lower bound. The high real interest rates in the Great Depression may have been important in that period; today, real interest rates are negative, and there is, as we have said, little reason to believe that slightly more negative real interest rates would have had much effect on the course of the economy. Strands of more modern monetary economics, focusing on credit availability and the ability and willingness of banks to lend (Stiglitz & Greenwald, 2003) seem to be far more relevant.

We also noted that while lowering interest rates was expected to have a positive effect on the global economy, that didn't happen. By the same token, asynchronous movements in interest rates should have close to a zero effect on the global economy—they give rise to exchange rate changes which have redistributive effects, and in the standard models, such effects wash out. By contrast, Greenwald and Stiglitz (1993) predicted that because of financial market frictions, the reductions in demand by those who are worse off more than offset the increases by those who are better off, so the net effect is negative. What we have observed seems consistent with their predictions.

So too, standard theory suggests that global imbalances shouldn't matter. So what if some country imports more than it exports and conversely for the other? That's the way efficient markets work: some individuals want to consume more now, others later. But macroeconomic analysis focusing on credit constraints recognizes that the countries facing deficits may have to constrain their spending more than those with surpluses expand theirs, and that financial markets may not do a good job in recycling the surpluses. The result can be a deficiency of aggregate demand. Moreover, with irrational markets, there may be a sudden change in sentiment, so that countries that run persistent deficits eventually face a constraint on further borrowing, precipitating a crisis. As we noted, global imbalances have increased—with northern Europe replacing China as the major source of surpluses.

6. Concluding remarks

There will be political and social consequences of the weak global economy, and the muted policies that have been put into place to restore growth. High youth unemployment is especially troublesome—there will be long-term hysteresis effects, with lower productivity growth in the future.

Across the world, the long-term movement toward global economic and political integration is facing the strongest opposition in a very long time, as large parts of the advanced countries blame their problems in no small measure on globalization. Globalization, it was argued, would bring unprecedented prosperity. Whether it did or not for the economy as a whole remains debated, but to the extent that it did, only the top benefitted. If the benefits had been shared, perhaps all would have prospered. (Though the argument for free trade is far weaker than its advocates admit; the analyses typically invoke unrealistic assumptions—with more realistic assumptions, free trade may even make all individuals worse off.[37])

In Europe, the growth in extremist parties and separatist movements is particularly troublesome. In the US, the anger is evident in the widespread support of anti-establishment candidates. No candidate is trumpeting a further extension of trade agreements. The underinvestment in health, education, technology, and infrastructure will also have long-term consequences—some of the most dramatic effects are already in evidence with the decrease in life expectancy and health among middle aged white Americans without a college education.[38]

[37] Particularly if we take account of their aversion to insecurity. See Newbery and Stiglitz (1984).
[38] See Case and Deaton (2015).

In emerging markets, the way the less benign conditions are managed will have large distributional effects, which in turn will affect growth and development prospects going forward. Already, there are calls in China from senior officials for wage restraint, to enable firms to invest more: a supply side measure which will at the least increase China's already troubling inequality, and is not likely to be very effective in restoring that country's growth.

In contrast, we have laid out a global agenda for sustainable and inclusive growth for emerging markets—one which would, at the same time, bring more shared prosperity to the entire world.

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